UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,678	08/19/2003	Stephen G. Holmes	NVID-065/00US 140060-2133	3501

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EXAMINER
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ART UNIT	PAPER NUMBER
2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/642,678	HOLMES ET AL.
Office Action Summary	Examiner	Art Unit	
	Joseph Saunders	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24-32* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24,26,27,29,30 and 32* is/are rejected.

7)☒ Claim(s) *25,28 and 31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   This office action is in response to the communications filed October 14, 2008.

Claims 24 – 32 are currently pending and considered below.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 24, 26, 27, 29, 30, and 32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Slezak (US 6,647,119 B1), hereinafter Slezak, in view of Sibbald (US

6,498,857 B1), hereinafter Sibbald, and Shaw et al. (US 6,016,515), hereinafter Shaw.

Claims 24, 27, and 30: Slezak discloses a method for using a single sound card to

output audio data from multiple entertainment sources that include a first application

and a second application, comprising:

        presenting a plurality of virtual devices (simulated sound sources) to a user with

each virtual device corresponding to a selection of a set of speakers (simulated sound

sources are audible indicators played through a set of speakers, e.g., speakers 55A and

55B) from a group of speakers (55A – 55D) in different locations (Figure 3), the

presenting including displaying a list of the plurality of virtual devices on a graphical user

interface (Figure 10);

receiving a first selection from the user (via indicator 294) associating a first

application (Slezak, does not explicitly state wherein a first application is a media player

application (claims 24 and 30) or video player application (claim 27). Slezak does

disclose "scheduler program, an electronic mail program, an electronic mail program, or

any number of other application programs commonly available," Column 4 Lines 25 –

30, Slezak also discloses a list of system events 282 from different applications, also

database application, word processor application, and "yet further information from a

different application being executed by the desktop computer," Column 5 Line 17 –

Column 6 Line 40. The office takes official notice that media players, game software,

and video players were all well known applications programs commonly available at the

time of the invention. Therefore it would have been obvious to one of ordinary skill in the

art to use the graphical user interface of Figure 10 of Slezak to also position audio from

a media player, game software, or video player since this would enable the user to have

sounds positioned in different locations.) with at least one of the plurality of virtual

devices (simulated sound sources) such that the first selection determines a first

assignment of speakers to the media player application (a first selection of speakers are

assigned from the group of speakers 55A – 55D so that the speakers necessary to

produce the simulated sound source of the corresponding first application at a first given

location are operated);

receiving a second selection from the user (via a second instance of indicator

294) associating a second application (Slezak, does not explicitly state wherein a first

application is a game software application (claims 24 and 27) or video player application

(claim 30). <u>Slezak</u> does disclose "scheduler program, an electronic mail program, an

electronic mail program, or any number of other application programs commonly

available," Column 4 Lines 25 – 30, <u>Slezak</u> also discloses a list of system events 282

from different applications, also database application, word processor application, and

"yet further information from a different application being executed by the desktop

computer," Column 5 Line 17 – Column 6 Line 40. The office takes official notice that

media players, game software, and video players were all well known applications

programs commonly available at the time of the invention. Therefore it would have been

obvious to one of ordinary skill in the art to use the graphical user interface of Figure 10

of <u>Slezak</u> to also position audio from a media player, game software, or video player

since this would enable the user to have sounds positioned in different locations.) with

at least one of the plurality of virtual devices (simulated sound sources) such that the

second selection determines a second assignment of speakers to the game software

application (a second selection of speakers are assigned from the group of speakers

55A – 55D so that the speakers necessary to produce the simulated sound source of

the corresponding second application at a second given location are operated); and

using a plurality of virtual device drivers (filters) to write audio data streams for

the first application and the second application (list of system events 282 from different

applications, also database application, word processor application, "yet further

information from a different application being executed by the desktop computer,"

Column 5 Line 17 – Column 6 Line 40) to program the single sound card (single sound

card 57) to associate audio data streams of the first application and the second

application with output audio channels based on the user's selections of virtual devices

(Column 4 Line 25 – Column 5 Line 16) so that the single sound card (single sound card

57) is operative to simultaneously output audio according to the first speaker

assignment and the second speaker assignment with the single sound card on one or

more shared speakers (Slezak discloses in Figure 10 and Column 9 – Line 49 – Column

10 Line 14 that the user selects from a list of system events such as "e-mail notification"

and Figure 10 also shows "appointment reminder" being listed. Slezak also discloses in

Column 4 Lines 25 – 30 that "the operating system 35 supports operation of multiple

application programs 7. As an example, the application 7 might be a scheduler program,

an electronic mail program, a database program, or any number of other application

programs commonly available". Therefore, the list of system events constitutes the

claimed two or more different applications. Slezak further discloses relating a simulated

sound source form a word processor to a distinct point in space while sounds from

another program showing important stock information relate to sounds at different points

in space so that, while the applications are simultaneously outputting audio, the user

can easily ascertain or distinguish between the different programs due to the location of

the simulated sound sources, Column 5 Line 55 – Column 6 Line 32).

Slezak does not disclose the interprocess communications taking place to

implement the invention and therefore does not disclose wherein the virtual device

drivers write audio data streams from the first application and second application into a

system memory accessible by the single sound card with the single sound card

performing any mixing required to output audio from the first application and the second application.

Sibbald further discloses how positioning of virtual sound sources is done for more than one signal source. In particular Figure 13 illustrates multiple signal sources S1 – S3 (Which is representative of the audio data streams generated by different applications), each being processed by a corresponding HRTF (corresponding to a virtual device driver) in order to position the virtual sound sources (corresponding to virtual devices), and then outputs of all of the HRTFs are multiplexed and simultaneously output. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Sibbald to the invention of Slezak, since Sibbald illustrates how to apply filters to different sources and multiplex the signals in a manner so that sounds that are intended on sounding as if coming from different positions in space do not end up sounding as if recorded from a single point source (Column 8 Lines 12 – 32).

Sibbald does not teach how to implement HRTFs in a computer system as disclosed by Slezak and therefore also does not teach virtual device drivers that write audio data streams from a first application and a second application into a system memory accessible by a sound card.

However Shaw discloses a system and method for processing sound in a computer system and discloses a way of applying effects to different audio streams before rendering. Shaw teaches that "filter" refers to the portion of the functionality found within a software driver, including the entire driver itself (Column 5 Lines 10 – 25).

Shaw also discloses in Figure 2 that in processing audio streams, effects filters (for example the filters or HRTFs) operating in kernel mode (system memory) may have an associated effects processor or the effects filter may operate entirely in software emulating the actual hardware processor. Therefore, the effects processor writes the processed audio data stream to memory allowing for the sound card to read the processed audio data stream (corresponding to the positioning of the virtual devices based on the user's selection) and later reading the information from system memory by the sound card where it is simultaneously output.

Therefore well the disclosures of Slezak and Sibbald does not explicitly provide all the necessary information to implement the system; in view of the teachings of Shaw, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the invention of Slezak and Sibbald with virtual device drivers as disclosed by Shaw performing the effects of the HRTFs disclosed by the system of Slezak and Sibbald on each different applications audio stream in order to position the sound corresponding to the different applications since the disclosure of Shaw provides for a well developed and standardized method of processing audio in a computer environment (Shaw, Column 1 Lines 9 – 16).

Finally, Slezak, Sibbald, and Shaw disclose wherein the single sound card (single sound card 57) performs any audio mixing required for individual speakers to output audio according to the speaker assignment from the two or more different audio applications (Shaw discloses that the a hardware processor, Column 6 Lines 41 – 51, or sound card mixes audio data streams, Column 22 Lines 27 – 34, (also discussed above

regarding filters and HRTFs with reference to <u>Sibbald</u>) according to the arbitrary user selection of different audio applications and the selection of virtual devices as taught by <u>Slezak</u>).

Claims 26, 29, and 32: <u>Slezak</u>, <u>Sibbald</u>, and <u>Shaw</u> disclose method of claim 24, 27, and 30, respectfully, and further disclose wherein the different locations of the group of speakers includes different positions within one room of a house (<u>Slezak</u> Figure 3).

Allowable Subject Matter

4.   Claims 25, 28, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5.   Applicant's arguments with respect to claims 24, 26, 27, 29, 30, and 32 have been considered but are moot in view of the new ground(s) of rejection. Further Applicant's reason for respectfully submitting that the 35 USC 103 rejection be withdrawn is not persuasive. Applicant does not contest that media player, video player, or game software are well known applications commonly available at the time of the invention and therefore the Examiner's rational for taking official notice that a media player, video player, or game software is not misplaced since Slezak suggests "scheduler program, an electronic mail program, an electronic mail program, or any

number of other application programs commonly available," Column 4 Lines 25 – 30,

the fact that applicant has recognized another advantage which would flow naturally

from following the suggestion of the prior art cannot be the basis for patentability when

the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60

(Bd. Pat. App. & Inter. 1985).

Conclusion

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph Saunders whose telephone number is (571)

270-1063. The examiner can normally be reached on Monday - Thursday, 9:00 a.m. -

4:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Curtis Kuntz can be reached on (571) 272-7499. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./
Examiner, Art Unit 2614
/CURTIS KUNTZ/
Supervisory Patent Examiner, Art Unit 2614